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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,868	02/08/2002	Koji Tanimoto	016907-1362	8355

22428 7590 05/17/2004

FOLEY AND LARDNER
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EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/067,868

Applicant(s)

TANIMOTO ET AL.

Examiner

Hai C Pham

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE (03/23/04) & Amendment (02/17/04).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) 12-15 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 03/23/04 for a Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 10/067,868 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (U.S. 5,786,594) in view of Tanimoto et al. (EP 0 797 343 A2).

Ito et al. discloses a multi-beam scanning system (Fig. 6) comprising a light beam light beam emitting means (laser diodes 10, 11) for outputting a plurality of light beams, a beam scanner (polygon mirror 3) for reflecting the light beam output from said light beam emitting means towards a to-be-scanned surface (image forming surface of the photoreceptor drum 5) to scan the to-be-scanned surface by use of the light beams in a main scanning direction, a first beam position detector (photo sensor 64 having either a triangular or trapezoidal shape delimited by the window of the cover 64a) (Fig. 17) for detecting the light beam scanned on the to-be-scanned surface by said beam

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scanner and generating an output signal whose level is continuously changed with a variation in the passage position in a sub-scanning direction perpendicular to the main scanning direction of the light beam (the output signal changes as a function of time), and a controller (control unit 83) for controlling the position of the light beams scanned by said beam scanner on the to-be-scanned surface to be in a preset position based on the result of detection of said first beam position detector.

However, Ito et al. fails to teach the control of the position of the light beams being based on the level of the output signal of the photo sensor as well as the second and third beam position detectors, the integrating means and the converting means.

Tanimoto et al., an acknowledged prior art, discloses all the basic limitations of the claimed invention including a plurality of light beam emitting devices (31a-31d), a beam scanner (36), light beam passage position changing means (33a-33d) for changing the passage position of the light beam in the sub-scanning direction, a controller determining one of the plurality of light beams as a reference beam and changing the relative passage position of the remaining light beams with respect to the passage position of the reference light beam by use of said light beam passage position changing means based on the output signal generated by the first beam position detector (Sa, Sb), an integrating means (62) for integrating the output signal of the first beam position detector, a second beam position detector (S1) generating a first timing signal, a third beam position detector (S2) generating a second timing signal, and a converting means (63) for converting the result of integration in response to the second timing signal.

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It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Ito et al. with the aforementioned teachings of Tanimoto et al. The motivation for doing so would have been to determine the time frame during which the light beam would accurately detected.

With regard to claim 2, Ito et al. further teaches a level shift means (e.g., amplifier AMP1) for shifting the level of the output signal of the first beam position detector.

Allowable Subject Matter

4. Claims 5-7 are allowed.

Response to Arguments

5. Applicant's arguments with respect to claims 1-4 and 16 have been considered but are moot in view of the new grounds of rejection presented in this Office action.

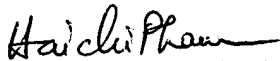
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

May 10, 2004